

IB IL SGI 1/CAL - Inline terminal

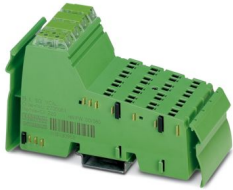


2700064

<https://www.phoenixcontact.com/us/products/2700064>

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Inline analog strain gauge input terminal, without accessories, evaluating electronics with EC type approval



Product description

The terminal is designed for use within an Inline station. This terminal can be used as a robust and precise piece of evaluation electronics to set up non-automatic weighing instruments (NAWI). The terminal block satisfies the EC type approval as an electronic evaluating device to set up non-automatic weighing instruments (NAWI) of commercial class III with 3,000 scale intervals or class III ordinary scales with 1,000 scale intervals in accordance with the EN 45501 and OIML R76 standards. A network-compatible serial interface can be used to connect primary and secondary displays for displaying measured gross/net and tare values to the evaluating electronics. The measurement and configuration data is transmitted via the parameter channel (PCP). The terminal has an alibi memory to store up to 65536 measurement protocols, including date and time. A specific DTM enables easy commissioning and data management (e.g., of the measurement protocols).

Your advantages

- 1 input for DMS
- Serial interface for external weight displays
- Connection of strain gauges in 6-conductor technology
- Electronic evaluating device to set up non-automatic weighing instruments (NAWI)
- Can be calibrated by EC type approval according to standards EN 45501 and OIML R76
- Alibi storage for up to 65536 test reports
- Zero point, tare, and standstill display
- Up to 3000 pitch values
- Parameterization and calibration using FDT/DTM technology
- Various filter settings

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 2700064 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Product key | DRI144 |
| GTIN | 4046356484022 |
| Weight per piece (including packing) | 182.5 g |
| Weight per piece (excluding packing) | 160 g |
| Country of origin | DE |

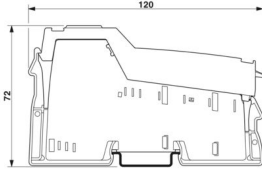
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Technical data

Dimensions

| | |
|---------------------|------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Width | 48.8 mm |
| Height | 120 mm |
| Depth | 71.5 mm |
| Note on dimensions | Dimensions with covering hood |

Notes

Utilization restriction

| | |
|----------|---------------------------------------------------------------------------|
| EMC note | EMC: class A product, see manufacturer's declaration in the download area |
|----------|---------------------------------------------------------------------------|

Material specifications

| | |
|-------|-------|
| Color | green |
|-------|-------|

Interfaces

Inline local bus

| | |
|--------------------|--------------------|
| Connection method | Inline data jumper |
| Transmission speed | 500 kbps |

Serial

| | |
|-----------------------|------------------------------------------------------------------------------------------------|
| Designation | RS-485 |
| Network | Yes |
| Addressing | Address 0 = Broadcast, alternating display of measured gross/net value and measured tare value |
| | Address 1 = Measured gross/net value |
| | Address 2 = Measured tare value |
| | Address 3 ... 9 = reserved |
| Termination resistor | 120 Ω |
| Transmission protocol | STX/ETX |

System properties

| | |
|-------------|------------------------------------------------------------------------------|
| Memory type | Measurement protocol memory Alibi memory: non-volatile Flash memory 20 years |
|-------------|------------------------------------------------------------------------------|

Programming data (LocalbusSlave)

| | |
|-------------------|----|
| Length code (hex) | 02 |
|-------------------|----|

| | |
|-------------------------|--------|
| ID code (dec.) | 220 |
| Length code (dec) | 02 |
| Process data channel | 32 bit |
| Input address area | 4 Byte |
| Output address area | 4 Byte |
| Parameter channel (PCP) | 4 Byte |
| Register length (bus) | 64 bit |

Fieldbus data telegram

| | |
|-----------------------------|---------|
| Required parameter data | 23 Byte |
| Required configuration data | 5 Byte |

Input data

Analog

| | |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description of the input | Input channel for strain gauge |
| Number of inputs | 1 |
| Connection technology | 6-wire, twisted pair shielded cable |
| Bridge difference U_d | Measuring range specified by selecting the characteristic |
| Bridge voltage U_0 | 5 V |
| Measured value representation | Process data: status bits and measured value including decimal places of the gross/net display PCP: see PCP; test report meets the requirements of DIN EN 45501 and OIML R76 |
| Process data update | typ. 100 ms |
| Characteristics | ± 1 mV/V, ± 2 mV/V, ± 3 mV/V, ± 3.33 mV/V, ± 4 mV/V, ± 5 mV/V |

Contacts

| | |
|-----------------------|----------------------------------------------------------------|
| Description | Lock of parameters |
| Quantity | 1 (PS _a - PS _b) |
| Logic | PS _a - PS _b connected = Parameter locked |
| Typical response time | < 100 ms |

Output data

Analog:

| | |
|--------------------|--------------------------------------------------------------------------------------------------------|
| Protective circuit | Short-circuit protection of the voltage outputs; Yes, at least 1 minute through temperature monitoring |
|--------------------|--------------------------------------------------------------------------------------------------------|

Analog

| | |
|--------------------|------------------------------------------|
| Output description | Voltage output |
| Number of outputs | 1 |
| Impedance | > 55 Ω max. 5 k Ω |
| Output voltage | typ. 5 V ± 2 % max. 5 V ± 5 % |
| Output current | max. 90 mA |

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2700064

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| | |
|------------------------|------------|
| Maximum output current | max. 90 mA |
|------------------------|------------|

Product properties

| | |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product type | I/O component |
| Type | modular Inline |
| Operating mode | Process data operation with 2 words, PCP with 2 words |
| Diagnostics messages | Failure of the power supply at U_{ANA} Error message in the process data Failure of or insufficient communications power U_L I/O error message sent to the bus coupler I/O error Error message in the process data User error Error message in the process data |

Electrical properties

Real-time clock

| | |
|----------------------------|----------------------------------------------------------------|
| Description realtime clock | Second, minute, hour, day, month, year 5 years, timer buffered |
|----------------------------|----------------------------------------------------------------|

Potentials

| | |
|-------------------|-------------------------------------------------------------------------------|
| Power consumption | typ. 1 W (Device in nominal operation) max. 2 W (Device with maximum load) |
|-------------------|-------------------------------------------------------------------------------|

Potentials: Communications power (U_L)

| | |
|----------------|-------------------------------|
| Supply voltage | 7.5 V DC (via voltage jumper) |
| Current draw | max. 100 mA typ. 80 mA |

Potentials: Supply of analog modules (U_{ANA})

| | |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Supply voltage | 24 V DC (via voltage jumper) |
| Supply voltage range | 19.2 V DC ... 30 V DC (including all tolerances, including ripple) |
| Current draw | max. 50 mA typ. 12 mA (For a typical load of 350 Ω and display) 43 mA (for a maximum load of 55 Ω and display) |

Electrical isolation/isolation of the voltage ranges

| | |
|--------------------------------------------------------------------------------|------------------------|
| Test voltage: Logic/analog I/O (digital isolator) | 500 V AC, 50 Hz, 1 min |
| Test voltage: 24 V supply (U_{ANA})/analog I/O (DC/DC converter) | 500 V AC, 50 Hz, 1 min |
| Test voltage: RS-485/analog I/O (isolating distance) | 500 V AC, 50 Hz, 1 min |
| Test voltage: Contacts PS_a - PS_b /analog I/O (isolating distance) | 500 V AC, 50 Hz, 1 min |
| Test voltage: Functional ground/analog I/O (isolating distance) | 500 V AC, 50 Hz, 1 min |
| Test voltage: Logic/24 V supply (U_{ANA}) (DC/DC converter) | 500 V AC, 50 Hz, 1 min |
| Test voltage: RS-485/24 V supply (U_{ANA}) (DC/DC converter) | 500 V AC, 50 Hz, 1 min |
| Test voltage: Functional ground/24 V supply (U_{ANA}) (isolating distance) | 500 V AC, 50 Hz, 1 min |
| Test voltage: Logic/RS-485 (digital isolator) | 500 V AC, 50 Hz, 1 min |
| Test voltage: Functional ground/RS-485 (isolating distance) | 500 V AC, 50 Hz, 1 min |

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2700064

<https://www.phoenixcontact.com/us/products/2700064>

| | |
|-------------------------------------------------------------------------------------------------|------------------------|
| Test voltage: Logic/contacts PS _a - PS _b (optocoupler) | 500 V AC, 50 Hz, 1 min |
| Test voltage: Functional ground/contacts PS _a - PS _b (isolating distance) | 500 V AC, 50 Hz, 1 min |
| Test voltage: Logic/functional ground (isolating distance) | 500 V AC, 50 Hz, 1 min |

Connection data

Connection technology

| | |
|-----------------|------------------|
| Connection name | Inline connector |
|-----------------|------------------|

Inline connector

| | |
|-----------------------------------|----------------------------------------------|
| Connection method | Spring-cage connection |
| Conductor cross-section, rigid | 0.08 mm ² ... 1.5 mm ² |
| Conductor cross-section, flexible | 0.08 mm ² ... 1.5 mm ² |
| Conductor cross-section AWG | 28 ... 16 |
| Stripping length | 8 mm |

SMKDS terminals

| | |
|-----------------------------------|----------------------------------------------|
| Connection method | Screw connection |
| Conductor cross-section, rigid | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross-section, flexible | 0.14 mm ² ... 1 mm ² |
| Conductor cross-section AWG | 26 ... 16 |
| Stripping length | 8 mm |

Environmental and real-life conditions

Ambient conditions

| | |
|------------------------------------------|-----------------------------------------------------------------------------------------|
| Ambient temperature (operation) | -25 °C ... 55 °C (Type approval according to DIN EN 45501 and OIML R76: -10°C ... 40°C) |
| Degree of protection | IP20 |
| Air pressure (operation) | 70 kPa ... 106 kPa (up to 3000 m above sea level) |
| Air pressure (storage/transport) | 70 kPa ... 106 kPa (up to 3000 m above sea level) |
| Ambient temperature (storage/transport) | -25 °C ... 85 °C |
| Permissible humidity (operation) | 10 % ... 95 % (non-condensing) |
| Permissible humidity (storage/transport) | 10 % ... 95 % (non-condensing) |

Standards and regulations

| | |
|------------------|---------------------------------------|
| Protection class | III (IEC 61140, EN 61140, VDE 0140-1) |
|------------------|---------------------------------------|

Mounting

| | |
|---------------|-------------------|
| Mounting type | DIN rail mounting |
|---------------|-------------------|

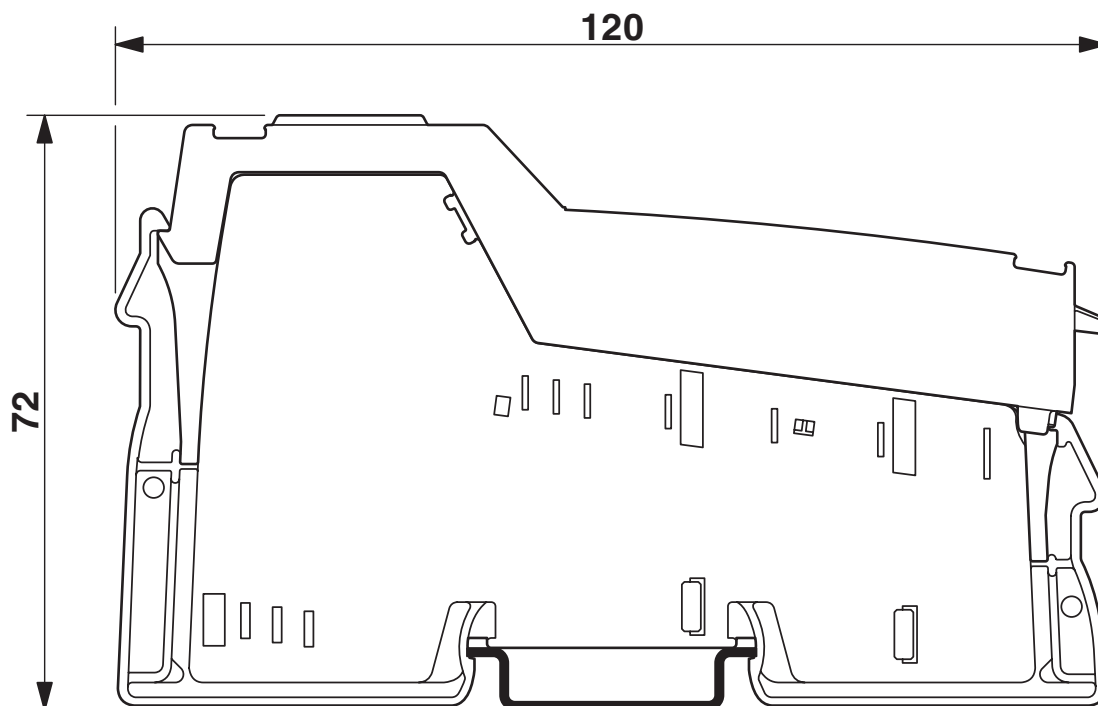
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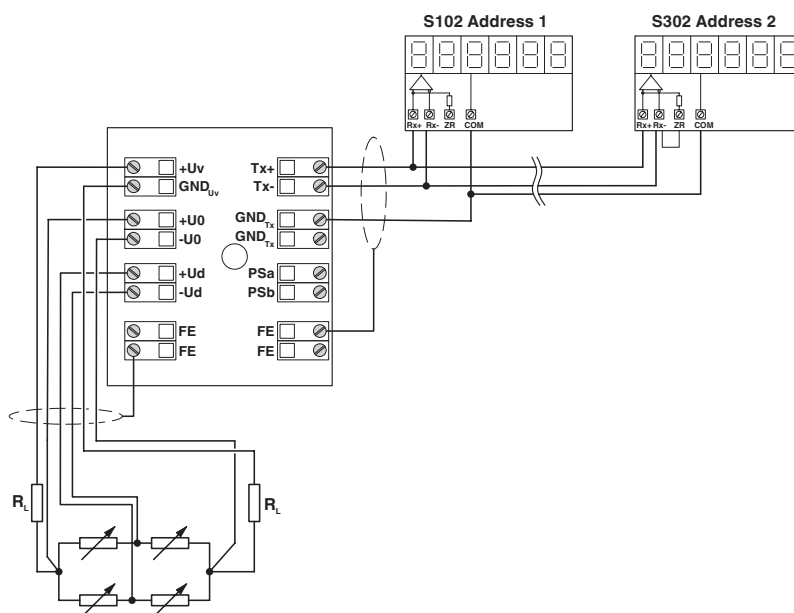
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Drawings

Dimensional drawing



Connection diagram



Connection of strain gauges in 6-conductor technology (calibration set)

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Environmental product compliance

China RoHS

| | |
|----------------------------------------|------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-E |
| | No hazardous substances above the limits |

EU REACH SVHC

| | |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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